

REMARKS

Claims 1-22 are pending in the application. Claim 1 is amended with this office action response. Reconsideration of the application is respectfully requested based on the following remarks.

I. REJECTION OF CLAIMS 1-5, 14-17 and 22 UNDER 35 U.S.C. § 103(a)

Claims 1-5, 14-17 and 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Walczak *et al.* (U.S. Patent 5,193,223) in view of Franchville *et al.* (U.S. Patent 6,041,076). Reversal of the rejection is respectfully requested for at least the following reasons.

i. Neither Walczak et al. nor Franchville et al. teach a digital signal processing unit comprising a preemphasis network as recited in amended independent claim 1.

Claim 1 is directed to a signal transmission apparatus... wherein the digital signal processing unit comprises a *preemphasis network* or predistortion network, as sometimes called by those of ordinary skill in the art. In the digital signal processing unit of the present invention the preemphasis network or the predistortion network affects the relative phase of an inphase and quadrature input of the complex value payload signal with respect to each other, and/or which affects the amplitude of the inphase or the quadrature input, for example by addition of a digital offset to one of the two signals. (See *e.g.*, page 4, lines 18-24).

Walczak *et al.*, teach or suggest a “power control circuitry responsive to level control signals and a transmit intermediate frequency (IF) signal from a signal source for maintaining the magnitude of a radio frequency (RF) output signal at one of a plurality of power levels selected by the level control signals.” (See *e.g.*, Col. 1, lines 51-57) However, Walczak *et al.*, are silent with respect to a *preemphasis network* as recited in claim 1.

Moreover, the secondary document, Franchville *et al.* do not cure the aforementioned deficiency with respect to the Walczak *et al.* reference. Franchville *et al.*, teach or suggest a method and apparatus for measuring the power level of a digitally modulated communication signal. (*See e.g.*, Col. 1, lines 7-9) However, Franchville *et al.*, are silent with respect to a *preemphasis network* as recited in claim 1.

As discussed *supra*, neither Walczak *et al.* nor Franchville *et al.*, alone or when combined, teach or suggest these novel features of applicants' claimed invention. Accordingly, withdrawal of this rejection and allowance of the claim 1 is requested.

Claims 2-5, 14-17 and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Walczak *et al.*, as applied to independent claim 1 above, and further in view of Franchville *et al.* It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Neither Walczak *et al.* and Franchville *et al.*, alone or in combination, teach or suggest all limitations recited in the subject claims.

Claims 2-5, 14-17 and 22 depend from independent claim 1. As discussed *supra*, Walczak *et al.* does not teach or suggest all limitations recited in independent claim 1 and Franchville *et al.* fails to overcome the deficiencies of Walczak *et al.* and, therefore, can not teach or suggest all limitations of claims that depend there from. Accordingly, withdrawal of this rejection and allowance of the claims 1-5, 14-17 and 22 is requested.

II. REJECTION OF CLAIMS 6-7, 10 and 13 UNDER 35 U.S.C. § 103(a)

Claims 6-7, 10 and 13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Walczak *et al.* (U.S. Patent 5,193,223) in view of Franchville *et al.* (U.S. Patent 6,041,076), and in further view of Shyue (U.S. Patent

6,359,936). Reversal of the rejection is respectfully requested for at least the following reasons.

i. This combination of art does not teach a quadrature modulator including first and second Gilbert multipliers which respectively receive in-phase and quadrature components of the complex-value payload signal, the quadrature modulator including an adder, the first and second Gilbert multipliers having respective outputs which are coupled to the adder, as recited in dependent claim 6.

As admitted in the Office Action of March 30, 2007, Walczak *et al.* and Franchville *et al.* fail to teach first and second low-pass filters respectively coupling the first and second digital analogue converters to the in-phase and quadrature input, as claimed. However, the Office Action asserts that the differences between cited references and the present invention are obvious (stating: “Thus, it would have been obvious to one skilled in the art at the time the invention was made to couple first and second low-pass filters respectively between the first and second digital/analogue converters (504,512) to the in-phase and quadrature input of the modulator (402), as shown in Shyue, in order to remove undesired out of band signals.”) (O.A., 03/30/07, page 5, ¶3, lines 11-16). Applicants respectfully disagree.

In order to arrive at the present invention, one of ordinary skill in the art must have been motivated to modify the cited art in accordance with the present invention. It is conceded that such motivation may be found in the references themselves, in the nature of the problem to be solved, or in the knowledge generally available to one skilled in the art. MPEP § 2143.01, citing to In re Kotzab, 217 F.3d 1365, 55 USPQ2d 1313 (Fed. Cir. 2000). ***Nevertheless, such motivation and the source thereof may not be conclusory, but rather the showing must be clear and particular.*** In re Dembiczak, 175 F.3d 994; 50 USPQ2D 1614 (Fed. Cir. 1999). It is respectfully submitted that upon a proper analysis of the cited art, and application of the

appropriate standard enunciated above, pending claim 6 is non-obvious over the cited art.

As discussed *supra*, Walczak *et al.*, teach or suggest a “**power control circuitry** responsive to level control signals and a transmit intermediate frequency (IF) signal from a signal source for maintaining the magnitude of a radio frequency (RF) output signal at one of a plurality of power levels selected by the level control signals.” (See *e.g.*, Col. 1, lines 51-57) In other words, Walczak *et al.*, is directed namely to power control. (See *e.g.*, Fig. 2; Col. 1, lines 9-13) Franchville *et al.* as discussed *supra*, is directed to a **signal power measurement apparatus** for measuring the power of a first signal. (See *e.g.*, Fig. 1, Fig. 2; page 1, Abstract)

In contrast, Shyue is directed a **single channel modulator that employs a memory reduction circuit**. (See *e.g.*, Fig. 2; page 1, Abstract) Shyue is silent with respect to power level control, as disclosed by Walczak *et al.*, or signal power measurement as disclosed by Franchville *et al.*

Therefore, there is no teaching or suggestion within Shyue that would motivate one of ordinary skill in the art to modify the cited references to couple first and second low-pass filters respectively between the first and second digital/analogue converters (504,512) to the in-phase and quadrature input of the modulator (402), as shown in Shyue, in order to remove undesired out of band signals. Certainly such a modification *could* be performed, and such a modification would not render the apparatus of Shyue inoperable, however, ***whether a modification could be performed is not the proper standard for evaluating whether a modification is appropriate under the U.S. patent law.*** MPEP § 2143.01 (*citing In re Mills*, 916 F.2d 680 (Fed. Cir. 1990) (holding with respect to a combination of cited art that the art must suggest the desirability of the combination)). Rather, the standard for ascertaining whether a modification is appropriate is whether a ***clear and particular motivation*** may be found in the references themselves, in the nature of the problem to be solved, or in the knowledge generally available to one skilled in the art. The Office Action avers that altering the apparatus of the cited references in accordance with the present invention would have

been obvious at the time the invention was made. ***This evidence, however, is not suggested by the art, but rather constitutes a post-modification rationalization, wherein the modification of the cited references in the Office Action is clearly a hindsight use of the pending claims as a blueprint, which is prohibited.***

Therefore one of ordinary skill in the art would not have been motivated to modify the cited art in accordance with the present invention. As highlighted above, the claimed invention is not taught by the cited prior art, and no motivation exists for a modification of the cited prior art in accordance with the present invention, and thus claim 6 and claims 7, 10 and 13 are nonobvious over the cited art. Accordingly, a reversal of the rejection is respectfully requested.

III. REJECTION OF CLAIMS 8-9 and 11-13 UNDER 35 U.S.C. § 103(a)

Claims 8-9 and 11-13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Walczak *et al.* (U.S. Patent 5,193,223), Franchville *et al.* (U.S. Patent 6,041,076), and Shyue (U.S. Patent 6,359,936) further in view of Torre *et al.* Reversal of the rejection is respectfully requested for at least the following reasons.

As discussed *supra*, neither Walczak *et al.* nor Franchville *et al.*, nor Shue alone or when combined, teach or suggest these novel features of applicants' claimed invention and no motivation exists for a modification of the cited prior art in accordance with the present invention. Torre *et al.* does not make up for the cited deficiencies. Accordingly, withdrawal of this rejection and allowance of the claim 8-9 and 11-12 is requested.

IV. REJECTION OF CLAIMS 18-21 UNDER 35 U.S.C. § 103(a)

Claims 18-21 were rejected under 35 U.S.C. §103(a) as being unpatentable over Walczak *et al.* (U.S. Patent 5,193,223) in view of Franchville *et al.* (U.S. Patent 6,041,076), and further in view of Torre *et al.* Reversal of the rejection is respectfully requested for at least the following reasons.

As discussed *supra*, neither Walczak *et al.* nor Franchville *et al.*, nor Shue alone or when combined, teach or suggest these novel features of applicants' claimed invention and no motivation exists for a modification of the cited prior art in accordance with the present invention. Accordingly, withdrawal of this rejection and allowance of the claim 8-9 and 11-12 is requested.

V. CONCLUSION

For at least the above reasons, the claims currently under consideration are believed to be in condition for allowance.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should any fees be due as a result of the filing of this response, the Commissioner is hereby authorized to charge the Deposit Account Number 50-1733, EHFP136WOUS.

Respectfully submitted,
ESCHWEILER & ASSOCIATES, LLC

By /Thomas G. Eschweiler/

Thomas G. Eschweiler
Reg. No. 36,981

National City Bank Building
629 Euclid Avenue, Suite 1000
Cleveland, Ohio 44114
(216) 502-0600